

What is claimed is:

1 1. A method of manipulating graphical block diagram block parameters in a graphical
2 block diagram modeling environment, comprising:

3 receiving a graphical block diagram of blocks for a model developed by a user; and
4 processing parameters specified for each of the blocks by the user to produce run-
5 time parameters.

1 2. The method of claim 1, wherein the run-time parameters comprise non-interfaced
2 parameters, and wherein processing comprises:

3 determining which of the non-interfaced parameters have matching values; and
4 defining a pooled parameter to represent the non-interfaced parameters having
5 matching values in references to such non-interfaced parameters.

1 3. The method of claim 2, wherein the processing parameters further comprises defining
2 a structure to enable code generation from the model that includes the pooled parameter.

1 4. The method of claim 2, wherein determining comprises:
2 identifying which of the non-interfaced parameters match a given criterion.

1 5. The method of claim 3, wherein the given criterion requires an exact match of values
2 of the non-interfaced parameters.

1 6. The method of claim 4, wherein the given criterion requires an exact match between a
2 value of one of the non-interfaced parameters and a value of at least one other of the non-
3 interfaced values after a data matching function is applied to the value of the at least one
4 other of the non-interfaced parameters.

1 7. The method of claim 1, wherein the run-time parameters comprise an interfaced
2 parameter expression and wherein processing further comprises:
3 creating a structure for the interfaced parameter expression to enable user access to
4 an interfaced variable in the interfaced parameter expression while the model is being

5 executed.

1 8. The method of claim 6, wherein creating further comprises defining the structure to
2 enable mapping of the interfaced variable to an executable code generated from the model.

1 9. The method of claim 1, wherein processing comprises:
2 evaluating the parameters to determine numerical values; and
3 evaluating the parameters to construct a data structure describing any of the
4 parameters that includes an interfaced variable.

1 10. The method of claim 8, wherein processing comprises:
2 defining each run-time parameter as corresponding to an expression of one or more of
3 the parameters.

1 11. The method of claim 8, wherein processing comprises:
2 defining one of the run-time parameters as corresponding to one of the parameters.

1 12. The method of claim 10, wherein the parameter comprises an interfaced parameter
2 and wherein defining defines the corresponding run-time parameter as a non-interfaced
3 parameter.

1 13. The method of claim 10, wherein the parameter is of one data type and wherein
2 defining defines the corresponding run-time parameter as having a different data type.

1 14. A computer program product residing on a computer-readable medium for
2 manipulating graphical block diagram block parameters in a graphical block diagram
3 modeling environment, the computer program product comprising instructions causing a
4 computer to:
5 receive a graphical block diagram of blocks for a model developed by a user; and

6 process parameters specified for each of the blocks by the user to produce run-time
7 parameters.

1 15. A computer system comprising:
2 means for receiving a graphical block diagram of blocks for a model developed by a
3 user; and
4 means for processing parameters specified for each of the blocks by the user to
5 produce run-time parameters.

Exhibit 100